DOCUMENT RESUME

ED 154 906 PS 009 901

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TITLE Classroom Behavior of Reflective and Impulsive Children.
PUB DATE Mar 78
NOTE 27p.; Paper presented at the Annual Meeting of the American Educational Research Asscciation (Toronto, Canada, March 27-31, 1978)

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Age Differences; Attention Control; Behavioral Science Research; *Behavior Patterns; *Conceptual Tempo; *Elementary School Students; *Group Instruction; Individual Instruction; Large Group Instruction; *Observation; Small Group Instruction; Social Behavior; Task Performance; Teacher Influence
IDENTIFIERS *Matching Familiar Figures Test (Kagan)

ABSTRACT

This paper describes a study of the classroom behavior patterns of 79 reflective and impulsive elementary school children in each of three contextual settings: individual setting (independent, unsupervised seat work); large group setting (15 or more students instructed by the teacher or another adult); and small group setting (similar to large group, but with 10 or fewer students). Groups of 9- and 11-year-olds participated in the study. Fifteen behavioral observation categories were used. Eleven of these were discrete (only one category could be scored during any 5-second observation period), and four were non-discrete (capable of being scored with another category during an observation period). Examples of discrete categories were: independent work, distraction, and task-oriented discussion. Non-discrete categories included self-verbalization and out-of-seat for a non-task related purpose. Two 5-minute blocks of data were collected for each child in each of the three contextual settings. Results lend little support to the hypothesis that reflective and impulsive elementary school children display characteristically different patterns of task-oriented or social behavior in the classroom. They also cast doubt on the validity of the Matching Familiar Figures test as an index of reflective and impulsive classroom behavior. Hence, direct observational measures rather than MFF classifications are recommended for identifying impulsive children for classroom intervention. (CM)

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CLASSROOM BEHAVIOR OF REFLECTIVE AND IMPULSIVE CHILDREN

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A PAPER DELIVERED AT THE ANNUAL MEETING OF THE
AMERICAN EDUCATIONAL RESEARCH ASSOCIATION

TORONTO, ONTARIO, CANADA

MARCH 27 - 31, 1978

PS 009901

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Over the past decade an extensive literature has accumulated indicating that impulsive children, as defined by Kagan's Matching Familiar Figures (MFF) test, perform poorer in school achievement and on a variety of problem-solving tasks than do their reflective peers (Kagan & Kogan, 1970; McKinney, 1975a; Messer, 1976). As early as 1965, Kagan reported preliminary data suggesting that reflective children persist longer with difficult tasks, show higher standards for mastery, and avoid social interaction in situations outside the standard laboratory setting. Kagan has since described impulsive children as being restless, distractible, emotionally undercontrolled, risk taking, gregarious, and aggressive (Kagan, 1965, 1966; Kagan, Rosman, Day, Albert, & Phillips, 1964; Kagan & Kogan, 1970).

More recent studies have indicated that teachers perceive impulsive children less favorably than reflectives on rating scales that relate broadly to the concept of impulsivity in the classroom. Ault, Crawford, and Jeffrey (1972) found that teachers rated impulsives as less attentive and more hyperactive than reflectives. McKinney (1975b) found that impulsive boys were described as less task-oriented and considerate than reflective children of either sex; however, impulsive girls and reflectives were rated comparably. On the other hand, Bjorklund and Butter (1973) found minimal relationship between teacher ratings and MFF variables, and McKinney (1974) was unable to replicate his 1975 study with a substantially larger sample at three different grade levels.

At the preschool level, Block, Block and Harrington (1974) reported that reflective children were described as calm, considerate, competent, and task-oriented on the California Child Q set. Contrary to Kagan's view (Kagan & Kogan, 1970), impulsive preschoolers were not characterized as anxious, hyper-sensitive, and structure seeking. Moreover, when Block et al. (1974) examined the relative contributions of MFF errors and response latency in a 2 x 2 design, only 2 of 100 personality attributes could be attributed to the tempo factor, whereas 32 were related to response accuracy. Significant interactions between tempo and accuracy were found for 18 attributes.

Due to inconsistencies in the studies of teacher ratings and the failure of their own data to support a relationship between response tempo and personality attributes, Block et al. (1974) maintain that many behavioral traits are associated with the concept of reflection/impulsivity, resulting in a surplus meaning and too heavy reliance on the MFF as the sole and sufficient criterion of impulsive and reflective behavior.

Recently two studies examined the relationship between reflection/impulsivity and overt classroom behavior of preschool children. Welch (1973) reported that impulsive 4 year olds spent less time engaged in task activities and spent more time in transition from one activity to another. Also, when distracted, impulsives had greater difficulty maintaining on-task activities, whereas reflectives were better able to engage in two or more

ACTIVITIES SIMULTANEOUSLY. HUSTON STEIN, SUSMAN, AND FREDRICH (1976) CORRELATED 15 CATEGORIES OF BEHAVIOR WITH IMPULSIVITY SCORES ON THE KANSAS REFLECTION-IMPULSIVITY SCALE FOR PRESCHOOLERS (WRIGHT, 1971). NO SIGNIFICANT CORRELATIONS WERE OBTAINED BETWEEN IMPULSIVITY SCORES AND BEHAVIOR IN A HIGHLY STRUCTURED PRESCHOOL CLASSROOM; HOWEVER, 10 OF THE 15 CATEGORIES WERE CORRELATED WITH KRISP SCORES IN RELATIVELY UNSTRUCTURED PRESCHOOL CLASSES.

A KEY ASSUMPTION INVOLVED IN MUCH OF THE RESEARCH ON REFLECTION/IMPULSIVITY IS THAT COGNITIVE TEMPO REPRESENTS A RESPONSE PREDISPOSITION THAT HAS BROAD BEHAVIORAL IMPLICATIONS. IF THIS IS NOT THE CASE, THE CONCEPT AND ITS PRIMARY INDEX, THE MFF TEST, LOSE MUCH OF THEIR ATTRACTION AS USEFUL PREDICTORS OF ACADEMIC PROGRESS AND LEARNING STLYE IN THE CLASSROOM. AT PRESENT, IT IS NOT CLEAR EXACTLY HOW REFLECTION/IMPULSIVITY IS MANIFESTED IN A TYPICAL ELEMENTARY CLASSROOM ENVIRONMENT, ALTHOUGH EVIDENCE SUGGESTS A RELATIONSHIP TO SEVERAL CATEGORIES OF TASK-ORIENTED AND SOCIAL BEHAVIOR IN PRESCHOOL CHILDREN. THE PURPOSE OF THIS PAPER, THEN, IS TO REPORT DATA CONCERNING THE CLASSROOM BEHAVIOR PATTERNS OF REFLECTIVE AND IMPULSIVE ELEMENTARY SCHOOL CHILDREN IN SEVERAL DIFFERENT CONTEXTUAL SETTINGS.

THE CHILDREN IN THE PRESENT STUDY HAD PARTICIPATED IN A 3-YEAR LONGITUDINAL STUDY OF PROBLEM-SOLVING STRATEGIES AND HAD BEEN GIVEN THE MATCHING FAMILIAR FIGURES (MFF) TEST DURING THE FALL OF EACH YEAR. ONLY CHILDREN CLASSIFIED AS REFLECTIVE OR IMPULSIVE IN AT LEAST 2 OF THE 3 YEARS WERE SELECTED, THEREBY ASSURING THAT EXTREME CASES WERE STUDIED. THIS SELECTION PROCEDURE ALSO MINIMIZED THE POSSIBILITY OF MISCLASSIFICATION DUE TO MODERATE

RELIABILITIES OF MFF ERROR SCORES (AULT, MITCHELL, AND HARTMANN, 1976).

THE FINAL SAMPLE OF 79 CHILDREN INCLUDED 27 9-YEAR-OLDS AND 42 11-YEAR-OLDS. OF THE 9-YEAR-OLDS, 6 WERE BLACK AND 18 WERE FEMALE; THE COMPARABLE FIGURES FOR 11-YEAR-OLDS WERE 9 AND 24.

SLIDE 1

NO SIGNIFICANT DIFFERENCES WERE FOUND BETWEEN REFLECTIVES AND IMPULSIVES AT EACH AGE LEVEL IN CA OR WISC-R VERBAL IQ. HOWEVER, AN ANALYSIS OF A MODIFIED HOLLINGSHEAD RATTINGS FOR SES SHOWED THAT IMPULSIVES WERE SIGNIFICANTLY LOWER IN SES THAN REFLECTIVES AT BOTH AGE LEVELS.

THE DEGREE OF TASK-ORIENTED AND APPROPRIATE SOCIAL BEHAVIOR IN THE CLASSROOM WAS THOUGHT TO POTENTIALLY BE A FUNCTION OF THE EXTENT OF TEACHER SUPERVISION WITHIN A PARTICULAR CLASSROOM SETTING. THAT IS, IF DIFFERENCES IN CLASSROOM BEHAVIORAL STYLES EXIST IT IS POSSIBLE THAT SUCH DIFFERENCES ARE THE RESULT OF DEGREES OF DIRECT TEACHER SUPERVISION OF INDIVIDUAL CHILDREN DURING VARIOUS PERIODS OF THE DAY. THEREFORE, BEHAVIORAL OBSERVATIONS WERE CONDUCTED FOR EACH CHILD IN EACH OF THREE SETTINGS. THE THREE CONTEXTUAL SETTINGS WERE CONCEPTUALIZED TO REPRESENT A CONTINUUM OF FROM LOW TO HIGH DEGREES OF TEACHER SUPERVISION. A CHILD WAS CONSIDERED TO BE WORKING IN AN <u>INDIVIDUAL</u> SETTING IF HE WAS ASSIGNED SEAT WORK AND

HAD HIS OWN MATERIALS. LARGE GROUP SETTING REFERRED TO SITUATIONS IN WHICH THE TEACHER OR ANOTHER ADULT WAS INSTRUCTING A GROUP OF 15 OR MORE STUDENTS. THE THIRD SETTING, SMALL GROUP, WAS SIMILAR TO LARGE GROUP IN THAT IT INVOLVED DIRECT INSTRUCTION BY THE TEACHER OR ANOTHER ADULT, BUT DIFFERED FROM LARGE GROUP IN THAT THE GROUP CONTAINED 10 OR FEWER STUDENTS.

THE SPECIFIC BEHAVIOR CATEGORIES THAT WERE STUDIED WERE SELECTED ACCORDING TO THREE CRITERIA. FIRST, CATEGORIES WERE SELECTED THAT WERE CONCEPTUALLY SIMILAR TO THOSE BEHAVIOR PATTERNS THAT HAVE BEEN ATTRIBUTED TO REFLECTIVE AND IMPULSIVE CHILDREN IN THE LITERATURE (BLOCK ET AL., 1974; KAGAN, 1965, 1966; KAGAN & KOGAN, 1970; WELCH, 1973). SECONDLY SEVERAL CATEGORIES WERE ADAPTED FROM EXISTING OBSERVATIONAL SYSTEMS THAT HAVE BEEN SHOWN TO PREDICT ACADEMIC ACHIEVEMENT (COBB, 1970; MCKINNEY, MASON, PERKERSON, & CLIFFORD, 1975). THIRDLY, SOME CATEGORIES WERE DEVELOPED BASED ON TEACHER RATING SCALES THAT WERE REFINED THROUGH PILOT WORK IN THIRD AND FOURTH GRADE CLASSROOMS (MCKINNEY, 1975B; SCHAEFER, 1975; KOHN & ROSMAN, 1974).

A TOTAL OF 15 BEHAVIORAL OBSERVATION CATEGORIES WERE USED IN THIS STUDY. INCLUDED WERE 11 DISCRETE BEHAVIORAL CATEGORIES OF WHICH ONLY ONE CATEGORY COULD BE SCORED DURING ANY PARTICULAR 5-SECOND OBSERVATION PERIOD. THOSE CATEGORIES INCLUDED: INDEPENDENT WORK; ATTENDING; DISTRACTION; PHYSICALLY INTERFERING WITH A PEER; AGGRESSION; THREE TYPES OF TEACHER INTERACTION, INCLUDING TASK-ORIENTED DISCUSSION, SOCIAL CONVERSATION AND CHILD VERBALIZATIONS TO THE TEACHER THAT WERE BLURTED OUT WITHOUT TEACHER ACKNOWLEDGMENT

BEFOREHAND; AND FINALLY, THREE PEER VERBAL INTERACTIONS THAT WERE TASK-ORIENTED TO ASSIGNMENTS, SOCIAL OR ARGUMENTATIVE IN NATURE.

FOUR BEHAVIORAL CATEGORIES WERE NON-DISCRETE OR CAPABLE OF BEING SCORED WITH ANOTHER CATEGORY DURING A GIVEN OBSERVATION TIME BLOCK. NON-DISCRETE CATEGORIES INCLUDED: BEING OUT-OF-SEAT BUT ENGAGED IN AN ASSIGNED TASK RELATED ACTIVITY; OUT-OF-SEAT FOR A NON-TASK RELATED PURPOSE, SELF-VERBALIZATION AND FINALLY REPETITIVE NON-FUNCTIONAL MOVEMENTS.

IN ATTITION, TWO COMPOSITE CATEGORIES WERE COMPUTED AT THE CONCLUSION OF EACH DAY. FIRST, TO OBTAIN AN INDICATION OF THE NUMBER OF SEPARATE OFF-TASK EPISODES, EACH PROTOCOL WAS SCORED FOR THE NUMBER OF OFF-TASK BLOCKS THAT WERE PRECEDED BY AN ON-TASK BLOCK. SECOND, THE MEAN LENGTH OF EACH OFF-TASK EPISODE WAS OBTAINED BY DIVIDING THE TOTAL NUMBER OF OFF-TASK BLOCKS BY THE NUMBER OF OFF-TASK EPISODES.

BEHAVIORAL CODES WERE CHECKED ON A SPECIALLY PREPARED FORM WITH COLUMNS REPRESENTING THE 15 BEHAVIORAL CATEGORIES AND ROWS REPRESENTING 5-SECOND TIME BLOCKS. BLOCKS WERE MARKED BY TONES GENERATED BY A CASSETTE TAPE PLAYER CARRIED BY THE OBSERVER. AT THE TERMINATION OF EACH TONE, WHICH THE OBSERVER HEARD BY MEANS OF AN EARPLUG, THE OBSERVER CHECKED THE OBSERVED BEHAVIOR AT THE TERMINATION OF THE TONE. AFTER CHECKING THE APPROPRIATE BEHAVIOR, THE OBSERVER MOVED HIS PENCIL TO THE NEXT BLOCK AND AWAITED THE

NEXT TONE. TWO 5-MINUTE BLOCKS OF DATA WERE COLLECTED FOR EACH CHILD IN EACH OF THE THREE CONTEXTUAL SETTINGS, YIELDING A TOTAL OF 30 MINUTES OF DATA PER CHILD.

AFTER THE 15 BEHAVIOR CATEGORIES HAD BEEN DEVELOPED, BUT PRIOR TO COLLECTING STUDY DATA, THE TWO OBSERVERS PRACTICED SIMULTANEOUS SCORING OF THE CATEGORIES UNTIL A MEAN DAILY INTER-OBSERVER AGREEMENT QUOTIENT OF .85 OR ABOVE HAD BEEN OBTAINED. APPROXIMATELY 12 HOURS OF SIMULTANEOUS OBSERVATION WAS NEEDED TO REACH THIS CRITERION. DURING THE TIME IN WHICH STUDY DATA WERE OBTAINED, WEEKLY CHECKS AGAINST OBSERVER DRIFT WERE MADE. INTER-OBSERVER AGREEMENTS WERE CALCULATED BY DIVIDING THE NUMBER OF TIME BLOCKS IN WHICH BOTH OBSERVERS AGREED BY THOSE IN WHICH THEY AGREED PLUS THOSE IN WHICH THEY DISAGREED. WEEKLY INTER-OBSERVER AGREEMENT QUOTIENTS RANGED FROM A LOW OF .840 TO A HIGH OF .932 WITH A MEAN WEEKLY INTER-OBSERVER AGREEMENT OF .874.

THE EXPERIMENTAL DESIGN FOR THE STUDY WAS A 2 X 2 X 3 WITH THE FIRST TWO FACTORS, REFLECTIVES VS. IMPULSIVES AND 9-YEAR-OLDS VS. 11-YEAR-OLDS, REPEATED ACROSS THE THREE LEVELS OF THE THIRD FACTOR: INDIVIDUAL WORK, LARGE GROUP INSTRUCTION, AND SMALL GROUP INSTRUCTION. FURTHER, SINCE THE DESIGN ALSO INCLUDED SEVERAL DEPENDENT VARIABLES, THE OBSERVATION CATEGORIES, A MULTIVARIATE ANALYSIS OF VARIANCE WAS APPROPRIATE (MCCALL, 1978), BUT ONLY FOR THE 11 DISCRETE VARIABLES. TO INSURE INDEPENDENCE AMONG OTHER CATEGORIES, SEPARATE ANOVAS WERE CARRIED OUT FOR THE FOUR NON-DISCRETE OBSERVATIONS AND TWO COMPOSITE CATEGORIES.

THE RESULTS OF THE ANALYSIS FOR MFF EFFECTS ARE INCLUDED IN THIS SLIDE. NOTE THAT AS A GROUP THE 11 DISCRETE CATEGORIES WERE FOUND TO BE POOR DISCRININATORS BETWEEN REFLECTIVE AND IMPULSIVE

SLIDE 2

CHILDREN. THE MULTIVARIATE F RATIO DID NOT APPROACH SIGNIFICANCE, NOR WERE SIGNIFICANT UNIVARIATE MAIN EFFECTS FOUND FOR A SINGLE DISCRETE CATEGORY. FOR THE FOUR NON-DISCRETE CATEGORIES, IMPULSIVE CHILDREN WERE FOUND TO BE OUT OF THEIR SEATS, ENGAGING IN NON-TASK RELATED ACTIVITIES MORE THAN WERE REFLECTIVE CHILDREN. FURTHER, THE COMPOSITE CATEGORY RESULTS SUGGESTS THAT IMPULSIVE CHILDREN WERE OBSERVED TO MORE FREQUENTLY SHIFT FROM TASK-ORIENTED TO NON-TASK-ORIENTED ACTIVITIES IN THE CLASSROOM. THESE RESULTS ARE SOMEWHAT COMPARABLE WITH THE HIGHER FREQUENCY OF TASK TRANSITIONS THAT WELCH (1973) REPORTED FOR IMPULSIVE 4-YEAR-OLDS DURING FREE CHOICE ACTIVITY PERIODS. HOWEVER, BASED UPON THE 17 UNIVARIATE ANALYSES PERFORMED FOR TESTING MFF EFFECTS IN THE PRESENT STUDY, IT IS POSSIBLE THAT AT LEAST ONE SIGNIFICANT RESULT WOULD HAVE BEEN OBTAINED BY CHANCE ALONE.

SLIDE 3

ON THE OTHER HAND, THE ANALYSIS FOR DISCRETE CATEGORIES DID YIELD A SIGNIFICANT MULTIVARIATE MAIN EFFECT FOR AGE GROUP WITH A TOTAL OF FIVE DISCRETE CATEGORIES DISCRININATING 9- FROM 11-YEAR-OLDS. FURTHER, THREE OF THE FOUR NON-DISCRETE CATEGORIES

AND ONE COMPOSITE CATEGORY DISCRIMINATED BETWEEN AGE GROUPS. UNIVARIATE TESTS INDICATED THAT AS A GROUP 11-YEAR-OLDS: A) EXHIBITED MORE INDEPENDENT WORK, B) ATTENDED MORE FREQUENTLY, C) WERE LESS DISTRACTED, D) INTERRUPTED THE TEACHER LESS WITH BLURTED COMMENTS, E) ENGAGED IN LESS SOCIAL CONVERSATION WITH THEIR PEERS, F) REMAINED IN THEIR SEATS MORE, G) VOCALIZED LESS TO THEMSELVES, AND H) REMAINED OFF-TASK FOR SHORTER PERIODS OF TIME THAN DID THEIR 9-YEAR-OLD COMPARISONS. THESE RESULTS SUGGEST TWO SALIENT POINTS. FIRST, THERE APPEARS TO BE A DEVELOPMENTAL TREND TOWARD MORE CONTROLLED AND TASK-ORIENTED BEHAVIOR, BY OLDER CHILDREN IN THE STUDY SAMPLE. SECONDLY, WHILE THE BEHAVIOR CATEGORIES WERE POOR DISCRIMINATORS BETWEEN CHILDREN CLASSIFIED AS REFLECTIVE AND IMPULSIVE, THE SAME CATEGORIES WERE EFFECTIVE IN DIFFERENTIATING BETWEEN AGE GROUPS IN A CONSISTANT DEVELOPMENTAL PATTERN. THE LATER POINT IS, IN ADDITION TO THREE CRITERIA FOR INITIALLY INCLUDING EACH OBSERVATION CATEGORY AND THE HIGH INTEROBSERVER AGREEMENTS, ON INDICES OF THE VALIDITY OF THOSE CATEGORIES.

THE MFF X AGE GROUP INTERACTIONS PRESENTED IN THE NEXT THREE SLIDES REVEAL ONLY TWO SIGNIFICANT INTERACTIONS: ONE IN THE EX-

SLIDE 4

TENT OF THE TEACHER INTERRUPTION, THE SECOND IN THE NUMBER OF OFF-TASK EPISODES. ANALYSES REVEALED THAT 9-YEAR-OLD IMPULSIVES

SLIDE 5

INTERRUPTED THE TEACHER MORE FREQUENTLY THAN 9-YEAR-OLD REFLECTIVES AND WITH GREATER FREQUENCY THAN EITHER REFLECTIVE OR IMPULSIVE 11-YEAR-OLDS. FURTHER, WHILE MINIMAL DIFFERENCES WERE FOUND BETWEEN

SLIDE 6

REFLECTIVES AND IMPULSIVES IN THE INCIDENCE OF OFF-TASK BEHAVIOR AT THE 9-YEAR-OLD LEVEL, IMPULSIVE 11-YEAR-OLDS WERE OFF-TASK AN AVERAGE OF 5.16 TIMES PER 5-MINUTES COMPARED TO 3.94 TIMES PER 5-MINUTES FOR REFLECTIVE 11-YEAR-OLDS. BOTH INTERACTIONS AGAIN, HINT AT A DEVELOPMENTAL PATTERN, THOUGH APPARENTLY DIFFERENT FOR THE TWO BEHAVIORAL CATEGORIES.

THE THIRD DESIGN FACTOR ALLOWED FOR WITHIN SUBJECT COMPARISON ACROSS THE THREE CLASSROOM CONTEXTUAL SETTINGS OF INDIVIDUAL WORK, LARGE GROUP INSTRUCTION AND SMALL GROUP INSTRUCTION.

COLUMNS TWO AND THREE OF THIS SLIDE PRESENT THE F RATIO AND CORRESPONDING P VALUES FOR THE INDIVIDUAL WORK VS. SMALL GROUP

SLIDE 7

SETTING. THOSE DATA REVEALED SIGNIFICANT DIFFERENCES BETWEEN INDIVIDUAL AND SMALL GROUP SETTINGS IN THE FREQUENCIES OF THE BEHAVIOR OBSERVED IN A TOTAL OF 9 OUT OF 13 POTENTIAL OBSERVATION CATEGORY CONTRASTS. SPECIFICALLY, THESE CONTRASTS SHOWED THE FOLLOWING: A) MORE OUT-OF-SEAT BEHAVIOR, BOTH ON-TASK AND OFF-

TASK, IN INDIVIDUAL WORK THAN SMALL GROUP; B) LESS DISTRACTION IN INDIVIDUAL WORK THAN SMALL GROUP; C) MORE SELF-VERBALIZATION IN INDIVIDUAL WORK THAN SMALL GROUP; D) LESS PHYSICAL INTERFERENCE WITH A PEER IN INDIVIDUAL WORK THAN SMALL GROUP;E) LESS TASK-ORIENTED DISCUSSION WITH THE TEACHER IN INDIVIDUAL WORK THAN SMALL GROUP; F) LESS BLURTED INTERUPTIONS OF THE TEACHER IN INDIVIDUAL WORK THAN SMALL GROUP; G) LESS TASK-ORIENTED DISCUSSION WITH PEERS IN INDIVIDUAL WORK THAN SMALL GROUP; AND H) MORE SOCIALLY RELATED DISCUSSIONS WITH PEERS IN INDIVIDUAL WORK THAN SMALL GROUP. FURTHER, THE TEST OF THE COMPOSITE CATEGORY FOR THE INCIDENCE OF OFF-TASK BEHAVIOR REVEALS SIGNIFICANTLY LESS FREQUENT OCCURRENCES OF GENERAL OFF-TASK BEHAVIOR IN INDIVIDUAL WORK THAN THE SMALL GROUP SETTING.

WITH THE EXCEPTION OF THE GREATER DISTRACTION AND PHYSICAL INTERFERENCE IN THE SMALL GROUP SETTING, THE ABOVE CONTEXTUAL SETTING RESULTS ARE WHAT MIGHT BE ANTICIPATED BASED UPON THE CLOSER PHYSICAL PROXIMITY AND DIRECT SUPERVISION OF THE TEACHER IN THAT SETTING. THE TWO APPARENT INCONGRUENT FINDINGS MAY MORE READILY BE UNDERSTOOD WITH THE FOLLOWING CLARIFIERS: FIRST, IN GROUP SETTINGS, MUCH OF THE INSTRUCTION IS VERBAL WHICH MAY HAVE ALLOWED CHILDREN TO AUDITORILY PROCESS THE INFORMATION WITHOUT DIRECT EYE-CONTACT WITH THE TEACHER OR INTENDED MATERIALS - A SITUATION THAT WOULD HAVE BEEN SCORED AS DISTRACTED. SECOND, SINCE MUCH SMALL GROUP INSTRUCTION OCCURS IN RATHER CONFINED AREAS OF THE CLASSROOM THERE WOULD BE A GREATER OPPORTUNITY FOR A CHILD TO POKE AT, RUN A FINGER UP A NEIGHBOR'S SPINE, OR OTHERWISE PHYSICALLY INTERFERE WITH ANOTHER CHILD'S COMPLIANCE WITH A DESIGNATED TASK.

IN ANY EVENT, THE RESULTS FROM THE OBSERVATION CATEGORIES SUGGEST THAT THERE IS A TENDENCY FOR TEACHER PROXIMITY AND/OR SUPERVISION TO INFLUENCE THE OVERT BEHAVIOR OF CHILDREN IN THE CLASSROOM, AND AS THE RESULTS FOR AGE COMPARISONS, THAT THE OBSERVATION CATEGORIES DESCRIMINATED RATHER CLEARLY BETWEEN CONTEXTUAL CATEGORIES.

COMPARISONS OF THE INDIVIDUAL SETTING WITH THE MEAN OF THE TWO GROUP SETTINGS WOULD PROVIDE A MORE POWERFUL ANALYSIS THAN A SECOND COMPARISON BETWEEN SINGLE SETTINGS. THE RESULTS OF THIS COMPARISON ARE PRESENT IN COLUMNS FIVE AND SIX OF THIS SLIDE. WITH THE EXCEPTION OF THE TEACHER-INTERACTION-TASK CATEGORY, THE DIFFERENCES ARE EQUIVALENT TO THOSE FOR THE INDIVIDUAL VS. SMALL GROUP COMPARISONS, ALL HIGHLY SIGNIFICANT. NO SIGNIFICANT INTERACTIONS WERE FOUND FOR ANY OF THE OBSERVATION CATEGORIES BETWEEN

SLIDE 8

SETTING AND COGNITIVE STYLE. HOWEVER, A SIGNIFICANT SYTLE X SETTING INTERACTION WAS FOUND FOR THE INCIDENCE OF OFF-TASK BEHAVIOR IN THE INDIVIDUAL VS. SMALL GROUP CONTRAST AND INDIVIDUAL VS. LARGE PLUS SMALL GROUP CONTRAST. REFLECTIVE CHILDREN AT BOTH AGE LEVELS WERE MORE LIKELY TO BE OFF-TASK IN INDIVIDUAL ACTIVITIES THAN IN EITHER SMALL OR LARGE GROUP ACTIVITIES, WHEREAS IMPULSIVE CHILDREN DID NOT DIFFER IN FREQUENCY OF OFF-TASK BEHAVIOR ACROSS SETTINGS.

FURTHER, NONE OF THE AGE X SETTING INTERACTIONS WERE SIGNIFICANT FOR THE INDIVIDUAL VS. SMALL GROUP CONTRASTS. HOWEVER, TWO INTER-

SLIDE 9

ACTIONS WERE SIGNIFICANT FOR THE INDIVIDUAL VS. LARGE AND SMALL GROUP CONTRASTS. NINE-YEAR-OLDS WERE OBSERVED OUT-OF-SEAT AND ON-TASK MORE OFTEN IN INDIVIDUAL SETTINGS COMPARED TO 11-YEAR-OLDS, WHILE THE TWO AGE GROUPS SHOWED COMPARABLE FREQUENCIES OF THIS BEHAVIOR IN GROUP SETTINGS. SIMILARLY, 9-YEAR-OLDS MORE OFTEN INTERRUPTED THE TEACHER IN GROUP SETTINGS COMPARED TO 11-YEAR-OLDS, WHILE THE AGE GROUPS DID NOT DIFFER IN INDIVIDUAL SETTINGS.

TO CONCLUDE BRIEFLY, THE PRESENT STUDY LENDS LITTLE SUPPORT FOR THE GENERAL HYPOTHESIS THAT REFLECTIVE AND IMPULSIVE ELEMENTARY SCHOOL CHILDREN DISPLAY CHARACTERISTICALLY DIFFERENT PATTERNS OF TASK-ORIENTED OR SOCIAL BEHAVIOR IN THE CLASSROOM. WHILE THE OBTAINED DIFFERENCES, INDICATING IMPULSIVES ARE MORE PRONE TO OUT-OF-SEAT MOBILITY AND MORE DIFFICULTY IN STAYING ON TASK, ARE SOMEWHAT CONSISTANT WITH THE PREVIOUS STUDIES WHICH SUGGEST THAT IMPULSIVE PRESCHOOL CHILDREN SPEND MORE TIME IN TRANSITION FROM ONE ACTIVITY TO ANOTHER (HUSTON-STEIN ET AL, 1976; WELCH, 1973). HOWEVER, DIRECT COMPARISON OF THOSE STUDIES WITH THE PRESENT STUDY IS EXTREMELY TENUOUS GIVEN DIFFERENCES IN AGE LEVELS AND OBSERVATIONAL TECHNIQUES.

WHILE THE PRESENT OBSERVATION CATEGORIES DIFFERENTIATED POORLY BETWEEN COGNITIVE STYLES, THE CATEGORIES DID REVEAL CA DIFFERENCES. IN EACH CASE, DIFFERENCES INDICATED MORE TASK-ORIENTED AND SOCIALLY APPROPRIATE BEHAVIORS WITH INCREASED CA. THE EXTENT TO WHICH THESE FINDINGS INTERRELATE WITH THE GREATER REFLECTIVITY IN LABORATORY SETTINGS WITH INCREASED AGE (KAGAN & KOGAN, 1970) IS LARGELY SPECU-

LATIVE. HOWEVER, IT IS POSSIBLE THAT BEHAVIORAL DIFFERENCE BETWEEN REFLECTIVE AND IMPULSIVE CHILDREN MAY BE MORE EVIDENT IN PRESCHOOL AND EARLY ELEMENTARY SCHOOL YEARS THAN DURING THE INTERMEDIATE GRADES COVERED IN THE PRESENT STUDY.

BEHAVIORAL DIFFERENCES WERE ANTICIPATED WITH INCREASED TASK-ORIENTED AND SOCIALLY ACCEPTABLE BEHAVIOR OBSERVED ACROSS THE INDIVIDUAL, LARGE GROUP AND SMALL GROUP SETTINGS. THIS EXPECTATION WAS BASED SAFELY ON AN INCREASED DEGREE OF TEACHER SUPERVISION AND PROBABLE PHYSICAL PROXIMITY OF THE TEACHER. THE FEW RESULTS IN OPPOSITION TO THIS EXPECTATION MAY HAVE OCCURED DUE TO VARIATIONS IN CONTEXTUAL SETTING DEMANDS OR RESPONSE AVAILABILITY.

CUMULATIVELY, THE ABOVE FINDINGS CAST DOUBT ON THE VALIDITY OF THE MFF TEST AS AN INDEX OF REFLECTIVE AND IMPULSIVE CLASSROOM BEHAVIOR. THEREFORE, IF FUTURE GOALS IN PSYCHOLOGY AND EDUCATION INCLUDE IDENTIFYING IMPULSIVE CHILDREN FOR CLASSROOM INTERVENTION, DIRECT OBSERVATIONAL MEASURE MAY BE MORE APPROPRIATE THAN MFF CLASSIFICATION. SIMILARLY, SINCE A NUMBER OF STUDIES HAVE SHOWN THAT CLASSROOM BEHAVIORS, SUCH AS THOSE OBSERVED IN THIS STUDY, ARE IMPORTANT DETERMINANTS OF ACADEMIC ACHIEVEMENT (COBB, 1972; MCKINNEY ET AL., 1975), PERHAPS THE FOCUS OF ATTEMPTS TO MODIFY IMPULSIVITY SHOULD BE ON BEHAVIORAL RATHER THAN COGNITIVE STYLES.

REFERENCES

Ault, R. L., Crawford, D. E., & Jeffrey, W. E. Visual scanning strategies of reflective, impulsive, fast-accurate, and slow-inaccurate children on the Matching Familiar Figures test. Child Development, 1972, 43, 1412-1417.

Ault, R. L., Mitchell, C., & Hartmann, D. P. Some methodological problems in reflection-impulsivity research. Child Development, 1976, 47, 227-231.

Bjorklund, D. F., & Butter, E. J. Can cognitive impulsivity be predicted from classroom behavior? Journal of Genetic Psychology, 1973, 123, 185-194.

Block, J., Block, J. H., & Harrington, D. M. Some misgivings about the Matching Familiar Figures test as a measure of reflection-impulsivity. Developmental Psychology, 1974, 10, 611-632.

Block, J., Block, J. H., & Harrington, D. M. Comments on the Kagan-Messer reply. Developmental Psychology, 1975, 11, 249-252.

Cobb, J. A. The relationship of observable classroom behavior to achievement of fourth grade pupils. (Doctoral dissertation, University of Oregon, 1969). Dissertation Abstracts International, 1970, 30, 5315A. (University Microfilm No. 70-2497, 84).

Cobb, J. A. Relationship of discrete classroom behavior to fourth-grade academic achievement. Journal of Educational Psychology, 1972, 63, 74-80.

Haskins, R. T., & McKinney, J. D. Relative effects of response tempo and accuracy on problem solving and academic achievement. Child Development, 1976, 47, 690-696.

Hollingshead, A. B. Two-factor index of social position. Unpublished manuscript, 1965. (Available from Yale Station, New Haven, Connecticut).

Huston-Stein, A. H., Susman, E. J., & Fredrich, L. K. The relationship of cognitive style to social and self-regulatory behaviors in naturalistic settings. Unpublished manuscript, The Pennsylvania State University, 1976.

Kagan, J. Impulsive and reflective children: Significance of conceptual tempo. In J. D. Krumboltz (Ed.), Learning and the educational process. Chicago: Rand McNally, 1965. (A)

Kagan, J. Reflection-impulsivity and reading ability in primary grade children. Child Development, 1965, 36, 609-628. (B)

Kagan, J. Reflection-impulsivity: The generality and dynamics of conceptual tempo. Journal of Abnormal Psychology, 1966, 71, 17-24.

Kagan, J. & Kogan, N. Individual variations in cognitive processes. In P. Mussen (Ed.), Carmichael's manual of child psychology. Vol. 1. New York: Wiley, 1970.

Kagan, J., & Messer, S. B. A reply to "Some misgivings about the Matching Familiar Figures Test as a measure of reflection-impulsivity". Developmental Psychology, 1975, 11, 244-248.

KAGAN, J., MOSS, H. A., & SIGEL, I. E. PSYCHOLOGICAL SIGNIFICANCE OF STYLE OF CONCEPTUALIZATION. MONOGRAPH OF THE SOCIETY FOR RESEARCH IN CHILD DEVELOPMENT, 1963, 28 (2, SERIAL NO. 86).

KAGAN, J., ROSMAN, B. L., DAY, D., ALBERT, J., & PHILLIPS, W. INFORMATION PROCESSING IN THE CHILD: SIGNIFICANCE OF ANALYTIC AND REFLECTIVE ATTITUDES. PSYCHOLOGICAL MONOGRAPHS, 1964, 78 (1, WHOLE NO. 578).

KOHN, M., & ROSMAN, B. L. SOCIO-EMOTIONAL, COGNITIVE, AND DEMOGRAPHIC DETERMINANTS OF POOR SCHOOL ACHIEVEMENT. JOURNAL OF EDUCATIONAL PSYCHOLOGY, 1974, 66, 267-276.

MCCALL, R. B. THE USE OF MULTIVARIATE PROCEDURES IN DEVELOPMENTAL PSYCHOLOGY. IN P. H. MUSSEN (ED.), CARMICHAEL'S MANUAL OF CHILD PSYCHOLOGY. VOL. 1. NEW YORK: WILEY, 1970.

MCCALL, R. B., & APPELBAUM, M. I. BIAS IN THE ANALYSIS OF REPEATED-MEASURES DESIGNS: SOME ALTERNATIVE APPROACHES. CHILD DEVELOPMENT, 1973, 44, 401-415.

MCKINNEY, J. D. DEVELOPMENTAL STUDY OF THE ACQUISITION AND UTILIZATION OF CONCEPTUAL STRATEGIES. JOURNAL OF EDUCATIONAL PSYCHOLOGY, 1972, 63 (1), 22-31.

MCKINNEY, J. D. PROBLEM-SOLVING STRATEGIES IN IMPULSIVE AND REFLECTIVE SECOND GRADERS. DEVELOPMENTAL PSYCHOLOGY, 1973, 8, 145.

MCKINNEY, J. D. PROBLEM-SOLVING STRATEGIES IN REFLECTIVE AND IMPULSIVE CHILDREN. JOURNAL OF EDUCATIONAL PSYCHOLOGY, 1975, 67, 807-820. (A)

MCKINNEY, J. D. TEACHER PERCEPTIONS OF THE CLASSROOM BEHAVIOR OF REFLECTIVE AND IMPULSIVE CHILDREN. PSYCHOLOGY IN THE SCHOOLS, 1975, 12, 348-352. (B)

MCKINNEY, J. D. RELATIONSHIP BETWEEN TEACHER PERCEPTIONS OF CLASSROOM BEHAVIOR AND REFLECTION/IMPULSIVITY. UNPUBLISHED MANUSCRIPT, 1974. (AVAILABLE FROM CHILD DEVELOPMENT BEHAVIORAL SCIENCES, UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, FPG BEHAVIORAL SCIENCES RESEARCH CENTER BUILDING #1, 071 A, CHAPEL HILL, N. C., 27514).

MCKINNEY, J. D., MASON, J., PERKERSON, K., & CLIFFORD, M. RELATIONSHIP BETWEEN CLASSROOM BEHAVIOR AND ACADEMIC ACHIEVEMENT. JOURNAL OF EDUCATIONAL PSYCHOLOGY, 1975, 67 (2), 198-203.

MESSER, S. B. REFLECTION-IMPULSIVITY: A REVIEW. PSYCHOLOGICAL BULLETIN, 1976, 83, 1026-1052.

SCHAEFER, E. S. MAJOR REPLICATED DIMENSIONS OF ADJUSTMENT AND ACHIEVEMENT: CROSS-CULTURAL, CROSS-SECTIONAL, AND LONGITUDINAL RESEARCH. IN DIMENSIONS OF COMPETENCE IN CLASSROOMS. SYMPOSIUM PRESENTED AT THE MEETING OF THE AMERICAN EDUCATIONAL RESEARCH ASSOCIATION, APRIL 1975.

WELCH, L. A NATURALISTIC STUDY OF THE FREE PLAY BEHAVIOR OF REFLECTIVE AND IMPULSIVE FOUR YEAR OLDS. PAPER PRESENTED AT THE BIENNIAL MEETING OF THE SOCIETY FOR RESEARCH IN CHILD DEVELOPMENT, 1973.

WRIGHT, J. C. THE KANSAS REFLECTION-IMPULSIVITY SCALE FOR PRESCHOOLERS (KRISP). ST. LOUIS: CEMREL, 1971.

SLIDE 1

SUMMARY OF SUBJECT CHARACTERISTICS

MFF CLASSIFICATION[A]	N	AGE (MONTHS) $\bar{X}$	AGE (MONTHS) SD	IQ[B] $\bar{X}$	IQ[B] SD	SES[C] $\bar{X}$	SES[C] SD
		9 YEAR OLDS					
REFLECTIVES	21	110.10	5.92	115.52	15.34	1.5**	.51
IMPLUSIVES	16	113.19	5.58	110.75	15.97	2.0**	.63
		11 YEAR OLDS					
REFLECTIVES	22	137.50	4.36	116.91	16.28	1.6*	.67
IMPLUSIVES	20	135.40	5.13	113.70	14.85	1.7*	.73

NOTE: [A]BASED ON CONSISTENT MFF CLASSIFICATION IN 2 OF 3 YEARS FOR ORIGINAL LONGITUDINAL GROUP; OR 2 OF 2 FOR CHILDREN ADDED IN YEAR 2 OF THIS PROJECT.

[B]VERBAL SCALE OF WISC-R.

[C]SINCE ONLY THE OCCUPATION OF PARENTS WAS AVAILABLE, SOCIO-ECONOMIC RATINGS WERE BASED ON THIS SINGLE FACTOR IN PARTIAL ACCORD WITH HOLLINGSHEAD'S (1965) TWO-FACTOR INDEX OF SOCIAL POSITION. HOLLINGSHEAD'S CATEGORY "1" WAS RETAINED; CATEGORIES "2", "3", AND "4" WERE COLLAPSED TO YIELD CATEGORY "2"; AND CATEGORIES "5", "6", AND "7" WERE COLLAPSED TO YIELD CATEGORY "3".

*$P < .05$

**$P < .01$

SLIDE 2

MANOVA AND ANOVA RESULTS FOR
MFF MAIN EFFECTS

CATEGORY	F	P
A. DISCRETE CATEGORIES		
MANOVA (DF = 11,65)	1.313	.238
ANOVA (DF = 1,75)		
INDEPENDENT WORK	1.174	NS
ATTENDING	.430	NS
DISTRACTED	.049	NS
PHYSICAL INTERFERENCE	.267	NS
AGGRESSION	2.338	NS
TEACHER-INTERACTION-TASK	.080	NS
TEACHER-INTERACTION-SOCIAL	.182	NS
TEACHER-INTERACTION-BLURT	2.456	NS
CHILD-INTERACTION-TASK	.591	NS
CHILD-INTERACTION-SOCIAL	.182	NS
CHILD-INTERACTION-ARGUE	.367	NS
B. NON-DISCRETE CATEGORIES		
ANOVA (DF = 1,75)		
OUT-OF-SEAT ON-TASK	.039	NS
OUT-OF-SEAT OFF-TASK	5.576	.021
SELF-VERBALIZATION	.108	NS
NON-FUNCTIONAL-MOVEMENT	.950	NS
C. COMPOSITE CATEGORIES		
ANOVA (DF = 1,75)		
OFF-TASK: EPISODE	4.506	.037
OFF-TASK: MEAN LENGTH	1.725	NS

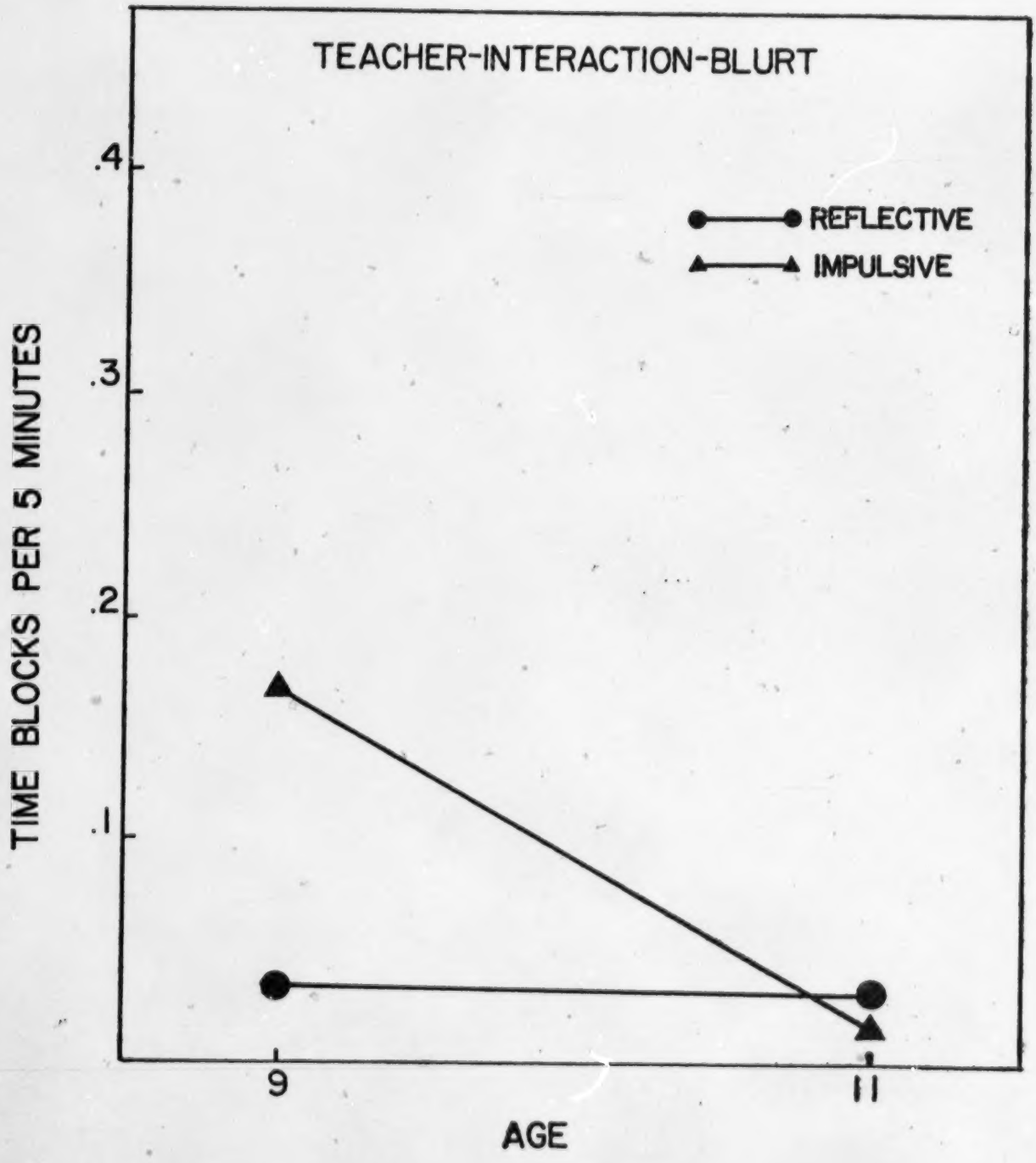
SLIDE 3

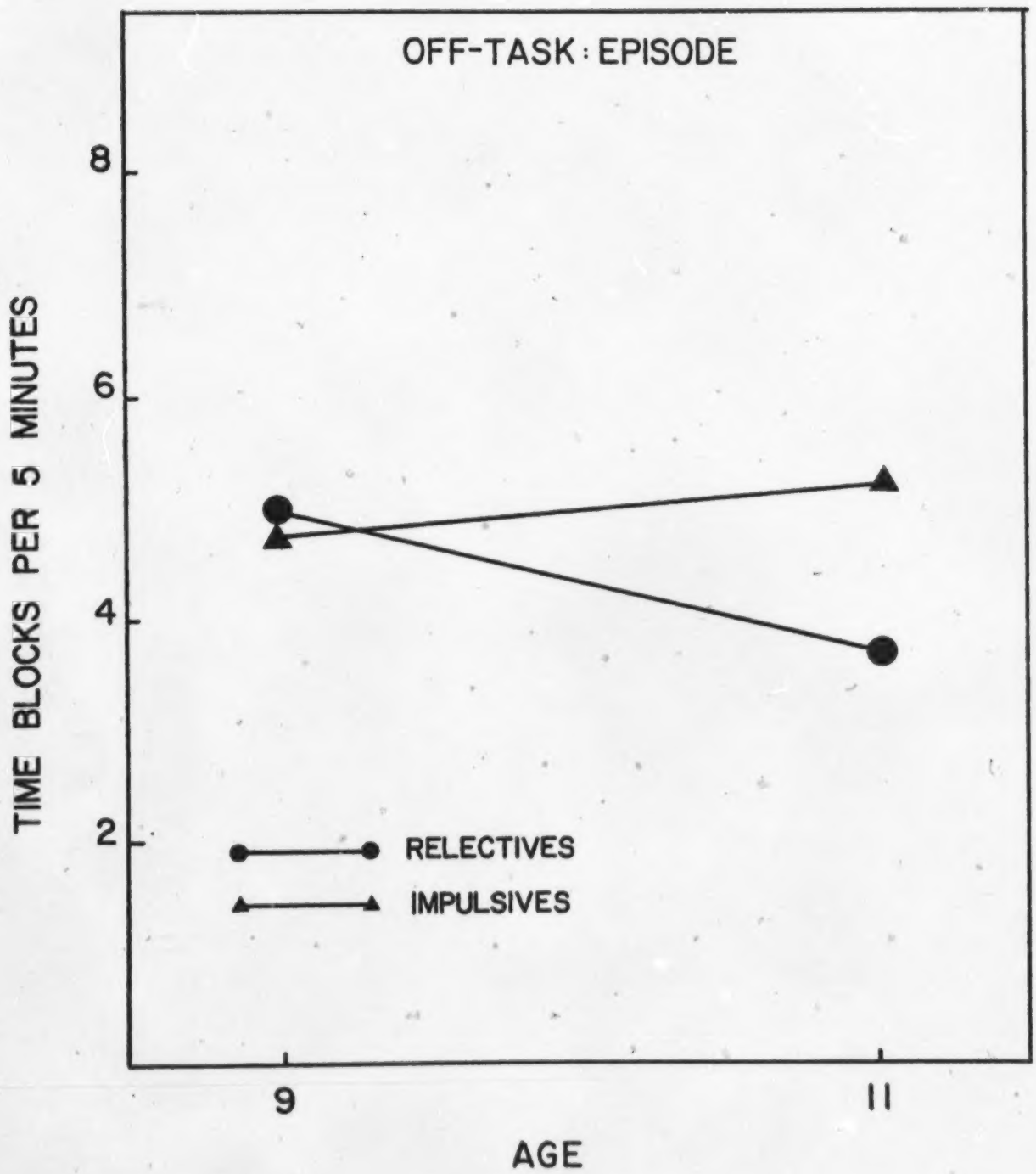
MANOVA AND ANOVA RESULTS FOR
AGE MAIN EFFECTS

CATEGORY	F	P
A. DISCRETE CATEGORIES		
MANOVA (DF = 11,65)	2.070	.035
ANOVA (DF = 1,75)		
INDEPENDENT WORK	6.358	.014
ATTENDING	10.149	.002
DISTRACTED	6.374	.014
PHYSICAL INTERFERENCE	1.337	NS
AGGRESSION	1.677	NS
TEACHER-INTERACTION-TASK	.527	NS
TEACHER-INTERACTION-SOCIAL	.360	NS
TEACHER-INTERACTION-BLURT	4.183	.044
CHILD-INTERACTION-TASK	.210	NS
CHILD-INTERACTION-SOCIAL	7.467	.008
CHILD-INTERACTION-ARGUE	1.583	NS
B. NON-DISCRETE CATEGORIES		
ANOVA (DF = 1,75)		
OUT-OF-SEAT ON-TASK	6.189	.015
OUT-OF-SEAT OFF-TASK	8.495	.005
SELF-VERBALIZATION	11.327	.001
NON-FUNCTIONAL-MOVEMENT	2.710	NS
C. COMPOSITE CATEGORIES		
ANOVA (DF = 1,75)		
OFF-TASK: EPISODE	1.868	NS
OFF-TASK: MEAN LENGTH	7.865	.006

MANOVA AND ANOVA RESULTS FOR
MFF X AGE INTERACTION

CATEGORY	F	P
A. DISCRETE CATEGORIES		
MANOVA (DF = 11,65)	1.424	.184
ANOVA (DF = 1,75)		
INDEPENDENT WORK	.873	NS
ATTENDING	1.555	NS
DISTRACTED	1.091	NS
PHYSICAL INTERFERENCE	3.417	NS
AGGRESSION	2.027	NS
TEACHER-INTERACTION-TASK	.398	NS
TEACHER-INTERACTION-SOCIAL	.436	NS
TEACHER-INTERACTION-BLURT	4.199	.044
CHILD-INTERACTION-TASK	.284	NS
CHILD-INTERACTION-SOCIAL	1.252	NS
CHILD INTERACTION-ARGUE	.508	NS
B. NON-DISCRETE CATEGORIES		
ANOVA (DF = 1,75)		
OUT-OF-SEAT ON-TASK	.363	NS
OUT-OF-SEAT OFF-TASK	.544	NS
SELF-VERBALIZATION	.001	NS
NON-FUNCTIONAL-MOVEMENT	.393	NS
C. COMPOSITE CATEGORIES		
ANOVA (DF = 1,75)		
OFF-TASK: EPISODE	4.630	.035
OFF-TASK: MEAN LENGTH	1.138	NS


TEACHER-INTERACTION-BLURT
REFLECTIVE
IMPULSIVE
TIME BLOCKS PER 5 MINUTES
.4
.3
.2
.1
9
11
AGE


OFF-TASK : EPISODE
TIME BLOCKS PER 5 MINUTES
8
6
4
2
RELECTIVES
IMPULSIVES
9
11
AGE

CONTEXTUAL SETTING GROUP COMPARISONS

CATEGORY (DF = 1,75)	CONTRAST (INDIVIDUAL VS. SMALL GROUP)		(INDIVIDUAL VS. X LARGE PLUS SMALL GROUP)	
	F	P	F	P
A. OBSERVATION CATEGORIES				
OUT-OF-SEAT ON-TASK	21.652	.001	24.176	.001
OUT-OF-SEAT OFF-TASK	8.998[A]	.004[A]	6.032[A]	.016[A]
INDEPENDENT WORK	------[A]	----[A]	------	----[A]
ATTENDING	------[B]	----[B]	------[B]	----[B]
DISTRACTED	17.625	.001	45.017	.001
SELF-VERBALIZATION	22.226	.001	26.591	.001
NON-FUNCTIONAL-MOVEMENT	7.748	.007	18.717	.001
PHYSICAL INTERFERENCE	1.558	NS	1.220	NS
AGGRESSION	.999	NS	.192	NS
TEACHER-INTERACTION-TASK	11.831	.001	4.003	.049
TEACHER-INTERACTION-SOCIAL	.034	NS	.460	NS
TEACHER-INTERACTION-BLURT	8.211	.005	10.641	.002
CHILD-INTERACTION-TASK	32.632	.001	31.795	.001
CHILD-INTERACTION-SOCIAL	15.626	.001	15.425	.001
CHILD-INTERACTION-ARGUE	.628	NS	.556	NS
B. COMPOSITE CATEGORIES				
OFF-TASK: INCIDENCE	19.161	.001	34.427	.001
OFF-TASK: MEAN LENGTH	1.688	NS	.069	NS

NOTES: [A]INDEPENDENT COULD OCCUR ONLY IN THE INDIVIDUAL SETTING, THEREFORE, DISALLOWING COMPARISONS WITH OTHER CONTEXTUAL SETTINGS.

[B]ATTENDING WOULD RARELY OCCUR IN THE INDIVIDUAL SETTING, THEREFORE, MAKING COMPARISONS WITH OTHER CONTEXTUAL SETTING NON-MEANINGFUL.

COGNITIVE STYLE X CONTEXTUAL SETTING INTERACTIONS

CATEGORY (DF = 1,75)	CONTRAST (INDIVIDUAL VS. SMALL GROUP) F	P	CONTRAST (INDIVIDUAL VS. X LARGE PLUS SMALL GROUP) F	P
A. OBSERVATION CATEGORIES				
OUT-OF-SEAT ON-TASK	.093	NS	.008	NS
OUT-OF-SEAT OFF-TASK	.074	NS	.126	NS
INDEPENDENT WORK	----[A]	--[A]	----[A]	--[A]
ATTENDING	----[B]	--[B]	----[B]	--[B]
DISTRACTED	.381	NS	.607	NS
SELF-VERBALIZATION	1.570	NS	.235	NS
NON-FUNCTIONAL-MOVEMENT	.312	NS	.510	NS
PHYSICAL INTERFERENCE	.112	NS	.006	NS
AGGRESSION	1.108	NS	.213	NS
TEACHER-INTERACTION-TASK	2.627	NS	3.254	NS
TEACHER-INTERACTION-SOCIAL	.457	NS	.457	NS
TEACHER-INTERACTION-BLURT	2.512	NS	2.682	NS
CHILD-INTERACTION-TASK	.072	NS	.054	NS
CHILD-INTERACTION-SOCIAL	.000	NS	.151	NS
CHILD-INTERACTION-ARGUE	1.526	NS	1.177	NS
B. COMPOSITE CATEGORIES				
OFF-TASK: INCIDENCE	5.437	.022	4.401	.039
OFF-TASK: MEAN LENGTH	.339	NS	.073	NS

NOTES: [A] INDEPENDENT COULD OCCUR ONLY IN THE INDIVIDUAL SETTING, THEREFORE, DISALLOWING COMPARISONS WITH OTHER CONTEXTUAL SETTINGS.

[B] ATTENDING WOULD RARELY OCCUR IN THE INDIVIDUAL SETTING, THEREFORE, MAKING COMPARISONS WITH OTHER CONTEXTUAL SETTING NON-MEANINGFUL.

AGE X CONTEXTUAL SETTING INTERACTIONS

CATEGORY (DF = 1,75)	CONTRAST (INDIVIDUAL VS. SMALL GROUP)		CONTRAST (INDIVIDUAL VS. X LARGE PLUS SMALL GROUP)	
	F	P	F	P
A. OBSERVATION CATEGORIES				
OUT-OF-SEAT ON-TASK	3.620	NS	4.258	.043
OUT-OF-SEAT OFF-TASK	2.175	NS	2.410	NS
INDEPENDENT WORK	-----A	--A	-----A	----A
ATTENDING	-----B	--B	-----B	----B
DISTRACTED	.218	NS	.007	NS
SELF-VERBALIZATION	.684	NS	.508	NS
NON-FUNCTIONAL-MOVEMENT	.016	NS	.515	NS
PHYSICAL INTERFERENCE	.055	NS	.000	NS
AGGRESSION	.794	NS	.152	NS
TEACHER-INTERACTION-TASK	.930	NS	.676	NS
TEACHER-INTERACTION-SOCIAL	3.309	NS	2.188	NS
TEACHER-INTERACTION-BLURT	1.457	NS	4.149	.045
CHILD-INTERACTION-TASK	2.318	NS	1.380	NS
CHILD-INTERACTION-SOCIAL	.960	NS	2.468	NS
CHILD-INTERACTION-ARGUE	.136	NS	.741	NS
B. COMPOSITE CATEGORIES				
OFF-TASK: INCIDENCE	.173	NS	.015	NS
OFF-TASK: MEAN LENGTH	1.370	NS	1.648	NS

NOTES: [A] INDEPENDENT COULD OCCUR ONLY IN THE INDIVIDUAL SETTING, THEREFORE, DISALLOWING COMPARISONS WITH OTHER CONTEXTUAL SETTINGS.

[B] ATTENDING WOULD RARELY OCCUR IN THE INDIVIDUAL SETTING, THEREFORE, MAKING COMPARISONS WITH OTHER CONTEXTUAL SETTING NON-MEANINGFUL.